

A clarion call for action based on refined DALY estimates for South Africa

Initial estimates of the burden of disease in South Africa in 2000¹ have been revised on the basis of additional data to estimate the disability-adjusted life-years (DALYs) for single causes for the first time in South Africa. The findings highlight the fact that despite uncertainty in the estimates, they provide important information to guide public health responses to improve the health of the nation.

DALYs are a summary measure of the health gap that combines the impact of premature mortality with disability from disease or injuries using time as a measure of equivalence. Death is measured in terms of the number of years of life lost (YLLs). Similarly, morbidity is measured as years lived with disability (YLDs). The DALY has been used by the World Health Organization (WHO) to quantify the burden of disease experienced globally.² This global study involved the unprecedented collation and analysis of vast amounts of data to develop consistent demographic and epidemiological estimates of disease burden. Such information has been used extensively to prioritise health interventions³ and identify health research priorities for developing countries.

National burden of disease studies to estimate DALYs by cause have been undertaken in several countries, including South Africa. Such studies have intensive data requirements, needing reliable cause-specific death rates and morbidity data. The morbidity component requires incidence rates for each condition as well as the duration and severity of each condition. No country has the requisite data; studies have therefore adopted a systematic approach whereby available data are carefully analysed and used together with epidemiological and demographic models to produce coherent estimates. Following the initial national burden of disease study for South Africa, the second phase extended to estimating the cause of death profile of the provinces. In the final phase of the South African National Burden of Disease Study 2000, the contribution of selected risk factors to the burden of disease is currently being assessed. The comparative risk assessment (CRA) study requires DALY measures for single health outcomes. (The initial burden of disease study provided DALY estimates for disease groups or categories.) In addition, as better epidemiological data have become available, it is necessary to revise the initial burden estimates.

The revised DALY estimates by single cause for the year 2000 are presented in this editorial. Full details of the method are outlined elsewhere.⁴ An important component of the revision is the use of the ASSA2002 model rather than ASSA2000 to obtain estimates of the population size, the HIV/AIDS deaths, and the total levels of mortality for the calendar year 2000 by age and sex.⁵

Fig. 1 shows the leading causes of disease burden ranked in DALYs differentiating the fatal and non-fatal components of the burden. While the broad profile remains unchanged, the main differences between the initial and the revised estimates include:

- The revised number of deaths is 520 000 compared with 550 000 (largely a result of defining the time period 6 months earlier and reflecting the speed at which the death statistics were changing at this time).
- The revised proportion of deaths due to HIV/AIDS is 25.5% compared with 30% (also a result of defining the time period to 6 months earlier).
- The number of injury deaths has been revised down (a result of the decline observed in the more recent empirical data).

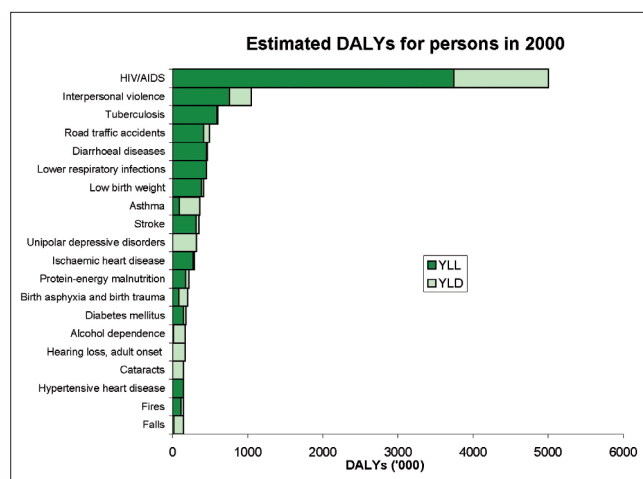


Fig. 1. Top twenty single causes of disease burden in DALYs in South Africa, 2000.

The revised estimates confirm the previously observed quadruple burden of disease experienced in South Africa – with the combination of conditions related to under-development, chronic diseases, injuries and AIDS. The revised YLDs resulting from AIDS is larger than anticipated from the initial estimates and reiterates the need to prioritise the implementation of the comprehensive plan for the treatment and prevention of HIV and AIDS. The inclusion of non-fatal burden results in mental health problems such as unipolar depression and alcohol dependence and disabilities such as adult-onset hearing loss and cataract-related blindness featuring among the leading single causes of death and disability.

The revised DALY estimates also highlight the magnitude of the neuropsychiatric problems, which rank 3rd as a category



following HIV/AIDS and the other infectious disease category. In part this is a result of combining the mental health and nervous system disorders as a single neuropsychiatric category, as was done in the global studies, and in part to the estimation method that has been revised. This high ranking clearly calls for a stronger health sector response to the neuropsychiatric conditions. The revised DALY estimates again highlight the need for South Africa to respond to chronic diseases such as cardiovascular and metabolic disorders.

These estimates highlight the clear need for South Africa to focus on improving the health of the nation. The prevention of HIV and AIDS, including the effective prevention of mother-to-child transmission, stands out as an urgent priority together with tuberculosis control. Developing intersectoral strategies to reduce violence and injuries, promoting healthy lifestyles and improving the management of childhood diseases are also likely to reduce the large burden of disease in South Africa. While the DALY will remain essentially unquantifiable for some time to come, in the absence of perfect data, estimates derived through careful analysis and synthesis using a burden of disease approach should be utilised for decision-making and prioritisation – taking into account the degree of uncertainty.

South Africa has gone some way to improve the cause of death statistics, but representative data on morbidity and disability are still largely missing. There is an urgent need to strengthen our capacity to collect, analyse and utilise population health statistics at local, provincial and national level. Such information, particularly basic indicators such as

mortality rates and disease incidence rates, are essential to assess the impact that health services and other interventions are having on the health of the population. The capacity to undertake critical analysis and synthesis of such data to provide measures of disease burden and the contribution to the burden of modifiable risk factors, together with the assessments of the cost-effectiveness of interventions, must also be strengthened in order to extend the evidence base that can be used to guide policy and programmes.

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